

WHAT IS CLAIMED IS:

1. A composition-of-matter comprising a double stranded RNA molecule associated with a targeting moiety selected capable of targeting to a specific cell and/or tissue type.
2. The composition-of-matter of claim 1, further comprising a nucleic acid carrier.
3. The composition-of-matter of claim 1, wherein said targeting moiety is non covalently attached to said double-stranded RNA molecule.
4. The composition-of-matter of claim 2, wherein said targeting moiety is covalently attached to said nucleic acid carrier.
5. The composition-of-matter of claim 2, wherein said double stranded RNA molecule is non covalently attached to said nucleic acid carrier.
6. The composition-of-matter of claim 2, wherein said nucleic acid carrier comprises a polymer selected from the group consisting of a polycationic polymer, a non-ionic water-soluble polymer, a polyether polymer and a biocompatible polymer.
7. The composition-of-matter of claim 6, wherein said polymer is polyethylenimine and/or poly(ethylene glycol).
8. The composition-of-matter of claim 2, further comprising a compound capable of facilitating degradation of an endosomal membrane.
9. The composition-of-matter of claim 8, wherein said compound capable of facilitating degradation of an endosomal membrane is melittin or a melittin derivative.

10. The composition-of-matter of claim 1, wherein said targeting moiety is a ligand of a surface marker of said specific cell and/or tissue type.
11. The composition-of-matter of claim 10, wherein said ligand of said surface marker is a biological ligand of said surface marker.
12. The composition-of-matter of claim 1, wherein said targeting moiety is an antibody or antibody fragment.
13. The composition-of-matter of claim 1, wherein said targeting moiety is a growth factor.
14. The composition-of-matter of claim 13, wherein said growth factor is epidermal growth factor.
15. The composition-of-matter of claim 10, wherein said surface marker is a growth factor receptor and/or a tumor associated antigen.
16. The composition-of-matter of claim 15, wherein said surface marker is epidermal growth factor receptor.
17. The composition-of-matter of claim 1, wherein said double stranded RNA molecule comprises a polyinosinic acid strand and/or a polycytidylic acid strand.
18. The composition-of-matter of claim 1, wherein said double stranded RNA molecule is composed of RNA strands each of which composed of a number of ribonucleotides selected from a range of 10-3,000 ribonucleotides.
19. The composition-of-matter of claim 1, wherein said specific cell and/or tissue type is associated with a disease and/or is a nervous system cell and/or tissue.
20. The composition-of-matter of claim 19, wherein said specific cell

and/or tissue type is a tumor cell and/or tissue and/or is a glial cell and/or tissue.

21. The composition-of-matter of claim 20, wherein said specific cell and/or tissue type is a malignant glioma cell and/or tissue.

22. The composition-of-matter of claim 21, wherein said specific cell and/or tissue type is a glioblastoma cell and/or tissue.

23. The composition-of-matter of claim 1, wherein said specific cell and/or tissue type is a human cell and/or tissue.

24. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and as an active ingredient a composition-of-matter which comprises a double stranded RNA molecule associated with a targeting moiety selected capable of targeting to a specific cell and/or tissue type.

25. The pharmaceutical composition of claim 24, wherein said composition-of-matter further comprises a nucleic acid carrier.

26. The pharmaceutical composition of claim 24, wherein said targeting moiety is non covalently attached to said double-stranded RNA molecule.

27. The pharmaceutical composition of claim 24, wherein said targeting moiety is covalently attached to said nucleic acid carrier.

28. The pharmaceutical composition of claim 24, wherein said double stranded RNA molecule is non covalently attached to said nucleic acid carrier.

29. The pharmaceutical composition of claim 24, wherein said nucleic acid carrier comprises a polymer selected from the group consisting of a polycationic polymer, a non-ionic water-soluble polymer, a polyether polymer and a biocompatible polymer.

30. The pharmaceutical composition of claim 29, wherein said polymer is polyethylenimine and/or poly(ethylene glycol).
31. The pharmaceutical composition of claim 24, wherein said composition-of-matter further comprises a compound capable of facilitating degradation of an endosomal membrane.
32. The pharmaceutical composition of claim 31, wherein said compound capable of facilitating degradation of an endosomal membrane is melittin or a melittin derivative.
33. The pharmaceutical composition of claim 24, wherein said targeting moiety is a ligand of a surface marker of said specific cell and/or tissue type.
34. The pharmaceutical composition of claim 33, wherein said ligand of said surface marker is a biological ligand of said surface marker.
35. The pharmaceutical composition of claim 24, wherein said targeting moiety is an antibody or antibody fragment.
36. The pharmaceutical composition of claim 24, wherein said targeting moiety is a growth factor.
37. The pharmaceutical composition of claim 36, wherein said growth factor is epidermal growth factor.
38. The pharmaceutical composition of claim 33, wherein said surface marker is a growth factor receptor and/or a tumor associated antigen.
39. The pharmaceutical composition of claim 38, wherein said surface marker is epidermal growth factor receptor.
40. The pharmaceutical composition of claim 24, wherein said double

stranded RNA molecule comprises a polyinosinic acid strand and/or a polycytidylic acid strand.

41. The pharmaceutical composition of claim 24, wherein said double stranded RNA molecule is composed of RNA strands each of which composed of a number of ribonucleotides selected from a range of 10-3,000 ribonucleotides.

42. The pharmaceutical composition of claim 24, wherein said specific cell and/or tissue type is associated with a disease and/or is a nervous system cell and/or tissue.

43. The pharmaceutical composition of claim 42, wherein said specific cell and/or tissue type is a tumor cell and/or tissue and/or is a glial cell and/or tissue.

44. The pharmaceutical composition of claim 43, wherein said specific cell and/or tissue type is a malignant glioma cell and/or tissue.

45. The pharmaceutical composition of claim 44, wherein said specific cell and/or tissue type is a glioblastoma cell and/or tissue.

46. The pharmaceutical composition of claim 24, wherein said specific cell and/or tissue type is a human cell and/or tissue.

47. A method of killing a specific target cell and/or tissue, the method comprising exposing the specific target cell and/or tissue to a composition-of-matter comprising a double stranded RNA molecule associated with a targeting moiety selected capable of targeting to the specific target cell and/or tissue, thereby killing the specific target cell and/or tissue.

48. The method of claim 47, wherein said exposing the specific target cell and/or tissue to said composition-of-matter is effected by administering said composition-of-matter to a vertebrate subject bearing the specific target cell and/or tissue.

49. The method of claim 48, wherein said administering said composition-of-matter to said vertebrate subject is effected by administering said composition-of-matter to said subject systemically and/or to a central nervous system location of said vertebrate subject.

50. The method of claim 47, wherein said composition-of-matter further comprises a nucleic acid carrier.

51. The method of claim 47, wherein said targeting moiety is non covalently attached to said double-stranded RNA molecule.

52. The method of claim 50, wherein said targeting moiety is covalently attached to said nucleic acid carrier.

53. The method of claim 50, wherein said double stranded RNA molecule is non covalently attached to said nucleic acid carrier.

54. The method of claim 50, wherein said nucleic acid carrier comprises a polymer selected from the group consisting of a polycationic polymer, a non-ionic water-soluble polymer, a polyether polymer and a biocompatible polymer.

55. The method of claim 54, wherein said polymer is polyethylenimine and/or poly(ethylene glycol).

56. The method of claim 47, wherein said composition-of-matter further comprises a compound capable of facilitating degradation of an endosomal membrane.

57. The method of claim 56, wherein said compound capable of facilitating degradation of an endosomal membrane is melittin or a melittin derivative.

58. The method of claim 47, wherein said targeting moiety is a ligand of a

surface marker of the specific target cell and/or tissue type.

59. The method of claim 58, wherein said ligand of said surface marker is a biological ligand of said surface marker.

60. The method of claim 47, wherein said targeting moiety is an antibody or antibody fragment.

61. The method of claim 47, wherein said targeting moiety is a growth factor.

62. The method of claim 61, wherein said growth factor is epidermal growth factor.

63. The method of claim 58, wherein said surface marker is a growth factor receptor and/or a tumor associated antigen.

64. The method of claim 63, wherein said surface marker is epidermal growth factor receptor.

65. The method of claim 47, wherein said double stranded RNA molecule comprises a polyinosinic acid strand and/or a polycytidylic acid strand.

66. The method of claim 47, wherein said double stranded RNA molecule is composed of RNA strands each of which composed of a number of ribonucleotides selected from a range of 10-3,000 ribonucleotides.

67. The method of claim 47, wherein the specific target cell and/or tissue type is associated with a disease and/or is a nervous system cell and/or tissue.

68. The method of claim 67, wherein the specific target cell and/or tissue type is a tumor cell and/or tissue and/or is a glial cell and/or tissue.

69. The method of claim 68, wherein the specific target cell and/or tissue type is a malignant glioma cell and/or tissue.

70. The method of claim 69, wherein the specific target cell and/or tissue type is a glioblastoma cell and/or tissue.

71. The method of claim 47, wherein the specific target cell and/or tissue type is a human cell and/or tissue.